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National health expenditures are projected to be 20 percent of the gross domestic product by 2015.

Obesity and smoking cause many chronic health conditions and drive up medical expenditures.

Kentucky ranks high in obesity and smoking.

Obesity— and smoking-attributed medical expenditures are significant.

Future Obesity and Smoking Rates

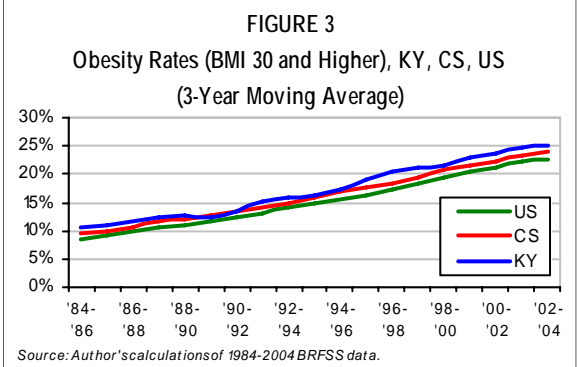
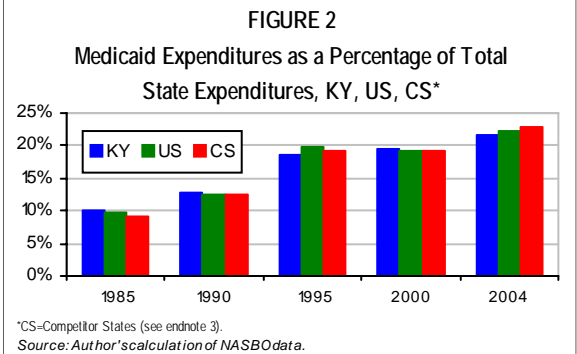
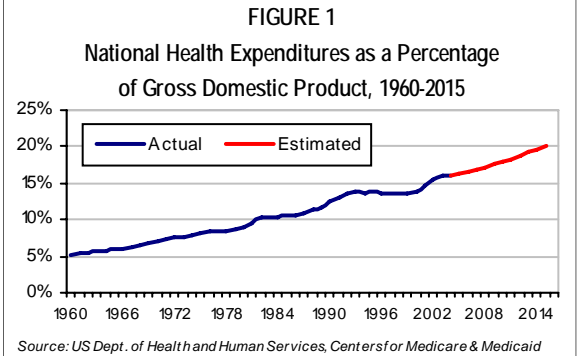
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The health status of our citizens, whether they are overweight, smoke, or exercise regularly, has a direct effect on our collective medical bill. And this bill continues to grow: national health care spending as a percentage of Gross Domestic Product (GDP) is projected to reach \$4 trillion or 20% of GDP by 2015 (Fig. 1).¹ This trend affects family expenses, business ledgers, and government budgets. Figure 2 illustrates how rising Medicaid² expenditures affect state government budgets, with Kentucky, competitor state (CS),³ and US averages now over 20 percent of total state expenditures. Nationally, Medicaid surpassed spending on elementary and secondary education as the largest category of state spending in 2004.⁴

Many factors are driving up health care expenditures,⁵ including, of course, the health status of people. Research shows that behavioral risk factors like smoking and obesity cause a long list of chronic health conditions (e.g., heart disease, cancer, stroke, diabetes),⁶ which in turn drive up health expenditures, increase disability rates, and lead to premature death.

One in four Kentucky adults is obese, a slightly higher rate than for competitor states or the nation (Fig. 3).⁷ The obesity rate has been rising steadily at least since 1984, and the percentage of individuals categorized as clinically severe obese (100 or more pounds overweight) is rising twice as fast.⁸ Around 1 in 32 Kentucky adults suffers from clinically severe obesity, compared to 1 in 35 in competitor states and about 1 in 40 nationally (Fig. 4). Kentucky also has the highest smoking rate in the nation, well above competitor state or US averages (Fig. 5).

Kentucky's estimated annual obesity-attributed medical expenditures (in 2003 dollars) is \$1.1 billion with \$340 million paid by Medicaid.⁹ This represents 6.2% of Kentucky's adult medical expenditures, 7.5% of Medicare expenditures, and 11.4% of Medicaid expenditures. Likewise, annual smoking-attributed medical expenditures in Kentucky are estimated to exceed \$1.1 billion (in 1998 dollars).¹⁰ Numerous studies find that smoking-attributed medical expenditures range between 6% and 9% of total medical expenditures.¹¹



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Conclusions

The trajectory of obesity and smoking rates suggests the future direction of medical expenditures as well as implications for economic competitiveness and productivity.¹² Fittingly, the Governor said in his 2006 State of the Commonwealth address, "... for the health of Kentuckians and for the health of our budget ... I am setting a goal for the next decade to be better than the national average by reducing obesity and smoking and increasing activity levels."

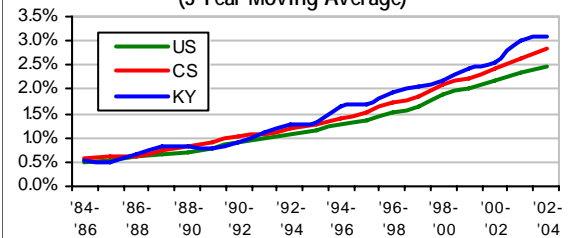
We project Kentucky's obesity and smoking rates to 2015 using a statistical model derived from CDC Behavioral Risk Factor Surveillance System (BRFSS) data from 1984 to 2004. Using logistic regression, we estimate the underlying relationships between socioeconomic factors, like age, education, income, race, and gender, and health status.¹³ If current trends continue without significant changes in behavior or medical technology, *Kentucky's obesity rate will likely exceed 36 percent and the smoking rate will probably surpass 28 percent by 2015*. Further, the gap between the Kentucky and US obesity and smoking rates will widen, not narrow, over the next decade. The current 2.4 percentage point difference between the Kentucky and US obesity rates will likely widen to about 4.4 percentage points by 2015 (Fig. 6). Likewise, the current 7 percentage point difference between Kentucky and US smoking rates will increase to nearly 10 percentage points by 2015 (Fig. 7).

The cost implications of an ever-increasing obesity rate and a persistently high smoking rate are significant, especially when Kentucky's competitor states have lower obesity and smoking rates (see Figs. 6 & 7). The Kentucky Department of Public Health's *Nutrition & Physical Activity State Action Plan 2005* provides a comprehensive framework for combating obesity in Kentucky.¹⁴ However, to be successful in the face of these trends, the ideas and values in this type of effort need to be fully embraced by policymakers and citizens. Otherwise, a significant portion of state resources will go toward dealing with the consequences of preventable diseases and chronic conditions.

¹²"National Health Care Expenditures Projections: 2005-2015," Centers for Medicare & Medicaid Services, Office of the Actuary, <<http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2005.pdf>>. ¹³Medicaid is a joint state-federal means-tested entitlement program that provides health insurance for about 800,000 low-income Kentuckians a year. In 2002 about 36 percent of Kentucky's Medicaid beneficiaries were elderly or disabled and 64 percent were other adults and children; however, approximately 70 percent of the spending was on the elderly and disabled. See the "State Medicaid Fact Sheet," The Kaiser Commission on Medicaid and the Uninsured <<http://www.kff.org/mfs/index.jsp>>. ¹⁴Competitor states are: AL, AR, FL, GA, IL, IN, LA, MI, MO, MS, NC, OH, SC, TN, VA, and WV. ¹⁵2004 State Expenditure Report. National Association of State Budget Officers (NASBO), 2005. ¹⁶Economists attribute the long-term spending growth to technological change, aging of the population, increases in health insurance coverage, rising income, increases in physician supply and physician-induced demand, growth of defensive medicine, administrative costs, and caring for the terminally ill. See Patricia Seliger Keenan, "What's Driving Health Care Costs?," *The Commonwealth Fund*, November 2004 <http://www.cmf.org/usr_doc/Keenan_whatsdrivingcosts_cong2004_707.pdf>.

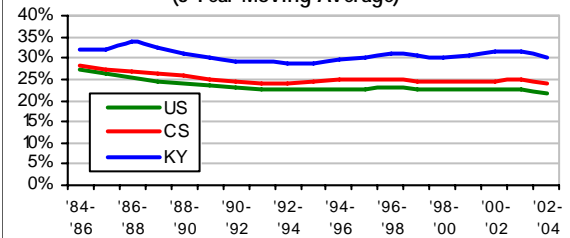
¹⁷Refer to Centers for Disease Control and Prevention, *Chronic Diseases: The Leading Causes of Death, Kentucky* <<http://www.cdc.gov/nccdphp/publications/factsheets/ChronicDisease/pdfs/Kentucky.pdf>>. ¹⁸Obesity here is based on CDC Behavioral Risk Factor Surveillance System self-report survey data from adults 18 and older about their weight and height. The Body Mass Index (BMI) is derived by taking the weight in kilograms divided by the height in squared meters. ¹⁹Roland Sturm, "Increases in Clinically Severe Obesity in the United States, 1986-2000," *Archives of Internal Medicine*, 163 (2003): 2146-2148. The clinically severe obese incur health care costs double that of their normal-weight counterparts. ²⁰Finkelstein, et al., "State-Level Estimates of Annual Medical Expenditures Attributable to Obesity," *Obesity Research*, 12.1 (2004): 18-24. ²¹CDC Tobacco Control, State Highlights 2002, Kentucky <http://www.cdc.gov/tobacco/statehi/html_2002/kentucky.htm>. ²²GAO-03-942R, CDC's 2002 Report on Health Consequences of Smoking (General Accounting Office, 2003) <<http://www.gao.gov/new.items/d03942r.pdf>>. ²³Obesity is associated with higher disability rates, even among working age (18 to 59). See Lakdawalla, D. N., J. Bhattacharya, and D. P. Goldman, "Are the Young Becoming More Disabled?," *Health Affairs*, 23.1 (2004): 168-176. ²⁴See <http://www.kltprc.net/policynotes/pn0020_techinfo.pdf> for information about the methodology. ²⁵Kentucky Department for Public Health, *The Kentucky Nutrition & Physical Activity State Action Plan 2005* <<http://www.fitky.org>>.

FIGURE 4
Clinically Severe Obesity (BMI 40 and Higher),
(3-Year Moving Average)



Source: Author's calculations of 1984-2004 BRFSS data.

FIGURE 5
Smoking Rates, KY, US, CS
(3-Year Moving Average)



Source: Author's calculations of 1984-2004 BRFSS data.

FIGURE 6
Estimated Future Obesity Rates, KY, US, CS

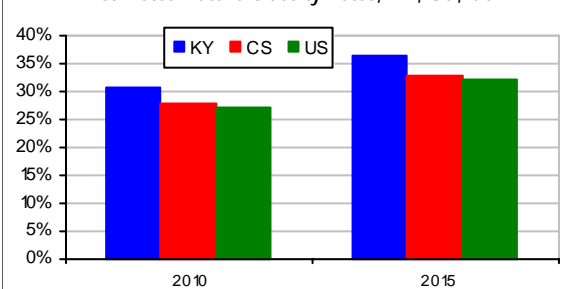


FIGURE 7
Estimated Future Smoking Rates, KY, US, CS

